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# MUSHROOM ROOT ROT OF FLORIDA PLANTS

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Mushroom root rot, caused by Clitocybe tabescens (Fr.) Bres., has been recorded on 210 species of plants in Florida (3). Because investigators encounter difficulty in producing artificial infection, the pathogenicity of the causal agent has often been questioned. However, the parasitic nature of this fungus (Table 1) is apparent from the readiness with which it attacks healthy and vigorous plants, and the ease with which it may spread from one plant to another through root contact (3). The map in Fig. 1 shows the distribution of the disease in Florida.

| Common name | Scientific name | Number of diseased plants reported |
|---|---|---|
| Horsetail Australian pine | *Casuarina equisetifolia* L. | [1] 4,500 |
| India-rubber fig | *Ficus elastica* Roxb. | [2] 2,500 |
| Scalybark Australian pine | *Casuarina lepidophloia* F. Muell. | 660 |
| Peach | *Prunus persica* (L.) Batsch. | [1] 625 |
| Tung tree | *Aleurites fordii* Hemsl. | [3] 375 |
| Rough lemon (rootstock) | *Citrus limon* (L.) Burm f. | 330 |
| Cunningham Australian pine | *Casuarina cunninghamiana* Miq. | 149 |
| Common guava | *Psidium guajava* L. | 102 |
| Sturdy cypress-pine | *Callitris robusta* R. Br. | [4] 100 |
| Coast Australian pine | *Casuarina stricta* Ait. | 86 |
| Turkscap waxmallow | *Malvaviscus grandiflorus* H. B. K. | 58 |
| American arborvitae | *Thuja occidentalis* L. | 36 |
| Beakpod eucalyptus | *Eucalyptus robusta* J. E. Sm. | 33 |
| Indica azalea | *Rhododendron indicum* (L.) Sweet. | 31 |
| Chinese hibiscus | *Hibiscus rosa-sinensis* L. | 25 |
| Swamp Australian pine | *Casuarina glauca* Sieb. | 22 |
| Brazil peppertree | *Schinus terebinthifolia* Raddi | 21 |
| Sand pear | *Pyrus pyrifolia* (Burm.) Nakai | 20 |
| Camphor-tree | *Cinnamomum camphora* (L.) Nees & Eberm. | 20 |
| Turkey oak | *Quercus laevis* Walt. | 19 |
| Amur privet | *Ligustrum amurense* Carr. | 17 |
| Australian pine | *Casuarina montana* Leschen. | 16 |
| Loquat | *Eriobotrya japonica* (Thunb.) Lindl. | 16 |
| Guamachil apes-earring | *Pithecellobium dulce* (Roxb.) Benth. | 16 |
| Rose (rootstock unknown) | *Rosa* sp. | 15 |
| Oriental arborvitae | *Thuja orientalis* L. | 15 |
| Silverleaf pumpwood | *Cecropia palmata* Willd. | 14 |
| Laurel oak | *Quercus laurifolia* Michx. | 14 |
| Purple bauhinia | *Bauhinia purpurea* L. | 14 |
| Grape | *Vitis* sp. | 14 |
| Common pomegranate | *Punica granatum* L. | 13 |
| Carolina laurelcherry | *Prunus caroliniana* Mill. | 13 |
| Sand pine | *Pinus clausa* (Engelm.) Vasey | 13 |
| Common poinsettia | *Euphorbia pulcherrima* Willd. | 12 |
| Surinam-cherry | *Eugenia uniflora* L. | 11 |
| Cattley guava | *Psidium cattleianum* Sabine | 10 |
| Japanese rose (rootstock) | *Rosa multiflora* Thunb. | 10 |
| Oleander | *Nerium oleander* L. | 10 |

**Table 1. List of plants in Florida on which clitocybe mushroom root rot has been found 10 or more times. (After Rhoads)**

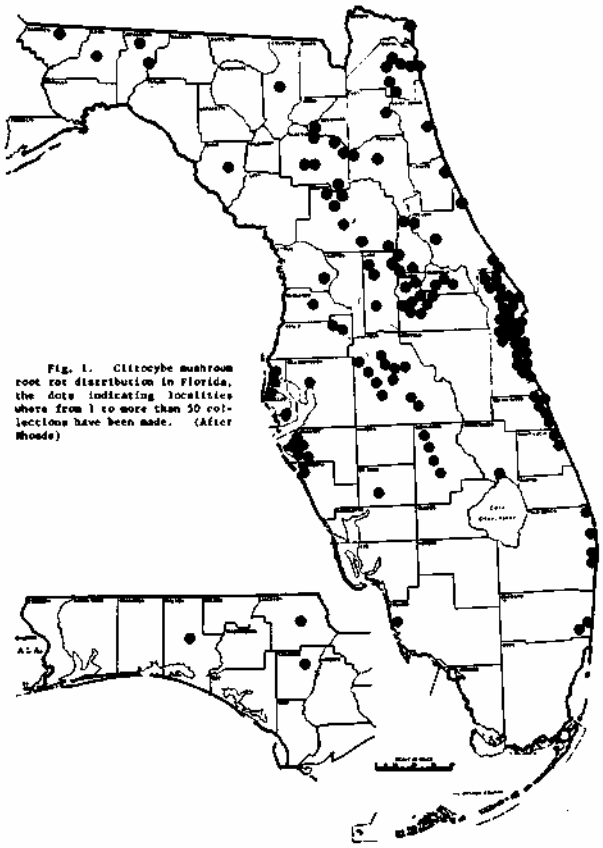

Fig. 1. Clitocybe mushroom root rot distribution in Florida, the dots indicating localities where from 1 to more than 50 collections have been made. (After Rhoads)

SYMPTOMS. The first visible symptom of clitocybe mushroom root rot is usually a chlorosis of the foliage on the lower branches on the side of the plant where the roots are first attacked. An advanced stage of disease development involves a partial girdling of the trunk or basal stem tissue at the soil-line. Examination of the roots and trunk will sometimes reveal the presence of mycelial mats

between the bark and the wood. An additional diagnostic character of this white, cream, or chamois-colored mycelial mat, Fig. 2, is the occurrence of pinpoint perforations on the surface of the mat. A cluster of sporophores, Fig. 3, on the base of the affected plant is the best evidence of the presence of the clitocybe mushroom root rot fungus. In Florida, these sporophores appear in the fall of the year.

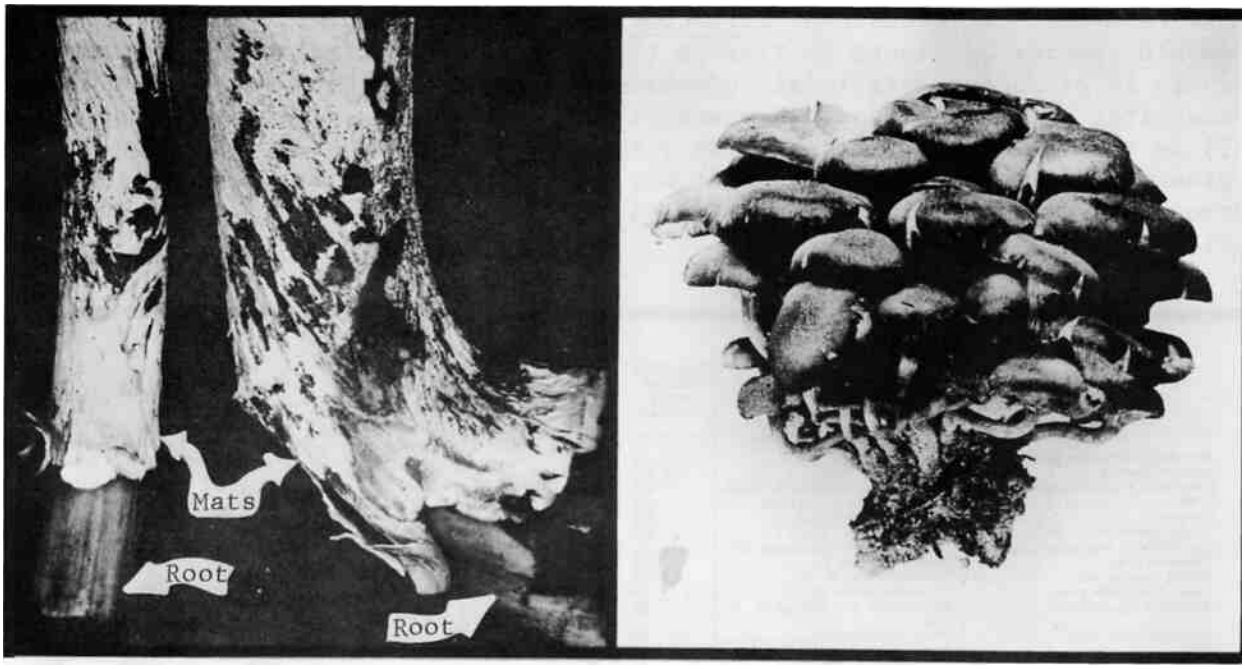


Fig. 2. Bark has been peeled off to show luxuriant growth of mycelial mats on roots. (After Rhoads)

Fig. 3. A typical cluster of mushrooms of Clitocybe tabescens (Fr.) Bres. (After Rhoads)

CONTROL. Control of the fungus is difficult because the organism is usually well established in a plant before the first symptoms are apparent. Preplanting precautions are the best control for clitocybe mushroom root rot. These precautions include careful removal of stumps and roots, particularly on light, acid, sandy soils where hardwood timber trees, especially oak, have **been** removed. Eradication of the fungus from an area where a diseased plant has been located may be achieved by removing and burning infected plant with as much of the **root** system as possible. Soil should be removed and replaced and the area treated with SMDC (Fume V, VPM, Vapam) or Vorlex (2).

Literature Cited

1. Creager, D. B. 1958. Formaldehyde as a fungicide. State Plant Board of Florida. Laboratory Notes No. 3.
2. Mullin, R. A., and T. A. Kucharek, eds. 1971. Florida plant disease control guide. Inst. Food & Agr. Sci., Univ. Fla., Gainesville.
3. Rhoads, A. S. 1950. Clitocybe root rot of woody plants in southeastern United States. U.S.D.A. Cir. No. 853.